

**Notice of Allowability**

Application No.

10/080,438

Applicant(s)

PEARSON ET AL.

Examiner

Art Unit

John B. Vigushin

2827

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 08 March 2004 (Cert. of Mailing: date: 02 March 2004).
2. ☒ The allowed claim(s) is/are 5, 14, 15, 23-25, 28-32, 42, 43, 50, 51 and 53-58.
3. ☒ The drawings filed on 7/7/2003 & 4/22/2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                              |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>0504</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                                      |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                     |
|   | 9. <input type="checkbox"/> Other _____  |

John B. Vigushin  
Primary Examiner  
Art Unit: 2827

### **DETAILED ACTION**

1. The present Office Action is responsive to Applicant's Amendment filed March 08, 2004 (Certificate of Mailing date: March 02, 2004). The Examiner acknowledges the amendments to Claims 5, 28, 42 and 43, the cancellation of Claims 41 and 52, and the addition of new Claims 57 and 58. Accordingly, Claims 5, 14, 15, 23-25, 28-32, 42, 43, 50, 51 and 53-58 are now pending in the instant amended Application.

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jordan M. Becker on May 19, 2004.

The application has been amended as follows:

**In Claim 32, line 1: "An interposer" has been changed to --A device--.**

### ***Allowable Subject Matter***

3. Claims 5, 14, 15, 23-25, 28-32, 42, 43, 50, 51 and 53-58 have been allowed.
4. The following is an examiner's statement of reasons for allowance:

As to Claim set 5, 50, 53 and 57, patentability resides, at least in part, in a *first plurality of grooves in the first surface between the conductive columns*, in combination with the other limitations of base Claim 5.

As to Claim set 14, 15, 54 and 55, patentability resides in **the combination of: 1) the interposer comprising a plurality of beams coupled to each other, 2) each beam comprising: (i) a circuit board substrate having a first surface and a second surface, (ii) a first plurality of conductive contacts disposed on the first surface to be coupled to the electronic component package and (iii) a second plurality of conductive contacts disposed on the second surface to be coupled to the circuit board**, in further combination with the other limitations of base Claim 14.

As to Claims 23-25, patentability resides in *the interposer formed from a plurality of beams coupled to each other, each of the beams comprising a circuit board substrate having the claimed first surface*, in combination with the other limitations of base Claim 23.

As to Claim set 29, 28, 30 and 51, patentability resides in a *first plurality of grooves in the first surface between the contact pads on the first surface*, in combination with the other limitations of base Claim 29.

As to Claim set 31-32, patentability resides in each interposer comprising a *first plurality of grooves in the first surface between the contact pads on the first surface*, in combination with the other limitations of combination Claim 31 (which includes the recitation of independent Claim 29 in its entirety).

As to Claim set 43, 42, 56 and 58, patentability resides in *a first plurality of grooves in the first surface between the conductive columns on the first surface*, in combination with the other limitations of base Claim 43.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

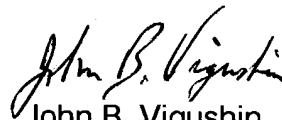
6. Claims 14, 15, 54, 55, 29, 28, 30, 51, 31, 32, 43, 42, 56, 58, 5, 50, 53, 57 and 23-25 of the instant allowed Application have been renumbered as Claims 1-21, respectively, for publication in the issued patent.

### **Conclusion**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Vigushin whose telephone number is 571-272-1936. The examiner can normally be reached on 8:30AM-5:00PM Mo-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
John B. Vigushin  
Primary Examiner  
Art Unit 2827

jbv  
May 20, 2004